

What is claimed is:

1. A bottle container provided with a protective film, comprises:
a bottle container, useful for containing beverage, wine or other liquid; and
5 a protective photocatalyst layer, comprising a nanoscale titanium dioxide (TiO_2) material and being doped with a metal particle, capable of increasing the absorption efficiency of sunlight and UV light,
wherein an alcohol-based compound is incorporated in the solvent of a coating composition used to coat the surface of said bottle container, and wherein said protective photocatalyst layer is distributed over the outer surface of said bottle container.
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2. A bottle container provided with a protective film as recited in claim 1, wherein said titanium dioxide material in said protective photocatalyst layer has a particle size of 5 to 30 micron.
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3. A bottle container provided with a protective film as recited in claim 1, wherein said metal particle in said protective photocatalyst layer is copper.
4. A bottle container provided with a protective film as recited in claim 1, wherein said alcohol-based compound incorporated in the solvent of said coating composition for coating said protective photocatalyst layer has silicon dioxide (SiO_2) as its component.
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5. A bottle container provided with a protective film as recited in claim 1, wherein said based-based compound incorporated in the solvent of said coating composition for coating said protective photocatalyst
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layer can form a strong protective film after being heated at 80-100°
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6. A bottle container provided with a protective film as recited in claim
1, wherein said bottle container is a plastic bottle made of polyester
5 polyethylene terephthalate (PET).
7. A bottle container provided with a protective film as recited in claim
1, wherein said bottle container is a glass bottle.